

What is claimed is:

1. An induction system for an internal combustion engine having a combustion chamber and an intake port in periodic communication with the combustion chamber, comprising:

an intake tube having a lower trumpet and an upper trumpet, each having an upper end, a lower end and a length;

a transition section extending between the upper end of said lower trumpet and the lower end of said upper trumpet;

- wherein said lower trumpet is connectable at its lower end to the intake port of an engine and has an inner transition diameter proximal its upper end, and wherein said upper trumpet has an inner expansion diameter that is between about 68 percent and 217 percent greater than the transition diameter.

2. The induction system of claim 1 wherein expansion diameter is between about 90 percent and 130 percent greater than the transition diameter.

3. The induction system of claim 1 wherein said upper trumpet is generally cylindrical with a constant expansion diameter.

4. The induction system of claim 1 wherein each of said upper and lower trumpets have centerlines that are mutually aligned.

5. The induction system of claim 1 wherein each of said upper and lower trumpets have centerlines and the centerline of said upper trumpet is offset from the centerline of said lower trumpet.

6. The induction system of claim 5 wherein the centerline of said upper trumpet is offset from the centerline of said lower trumpet by about 25 percent of the expansion diameter of said upper trumpet.

7. The induction system of claim 1 wherein the inner expansion diameter is about 68 percent greater than the transition diameter.

5 8. The induction system of claim 1 wherein the inner expansion diameter is about 217 percent greater than the transition diameter.

9. The induction system of claim 1 wherein each of said upper and lower trumpets have centerlines, and the centerline of said upper trumpet forms an offset angle with the centerline of said lower trumpet, the offset angle being greater
10 than zero degrees.

10. The induction system of claim 9 wherein the offset angle is not less than about 20 degrees.

11. The induction system of claim 1 wherein said transition section has a floor and wherein said induction system further includes a trumpet insert positioned against said floor and extending up into said upper trumpet, said insert effectively extending the length of said lower trumpet and decreasing the length of said upper trumpet.
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12. The induction system of claim 11 wherein said insert has an inner insert diameter, at least a portion of which is substantially the same as the transition diameter of said lower trumpet

13. The induction system of claim 12 wherein the inner surface of said insert is generally cylindrical.
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14. The induction system of claim 12 wherein the inner surface of said insert is generally frustoconical.
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15. The induction system of claim 12 wherein the inner surface of said insert is generally arcuate.

16. The induction system of claim 12 wherein at least a portion of the insert diameter is substantially the same as the expansion diameter of said upper trumpet.

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17. The induction system of claim 1 wherein each of said upper and lower trumpets have centerlines, and the centerline of said upper trumpet is substantially straight.

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18. The induction system of claim 1 wherein each of said upper and lower trumpets have centerlines, and the centerline of said upper trumpet is substantially curved.

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19. The induction system of claim 1 wherein each of said upper and lower trumpets have centerlines, and the centerline of said upper trumpet is angled.

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20. The induction system of claim 1 further including a plurality of spacers sized and configured to be interposed between said upper trumpet and said transition section to vary the overall length of said upper trumpet.

21. An induction system for an internal combustion engine having a combustion chamber and an intake port in periodic communication with the combustion chamber, comprising:

an intake tube having a lower trumpet and an upper trumpet, each having an upper end, a lower end and a length;

a transition section extending between the upper end of said lower trumpet and the lower end of said upper trumpet;

wherein said lower trumpet is connectable at its lower end to the intake port of an engine and has an inner transition area proximal its upper end, and wherein said upper trumpet has an inner expansion area that is between about 182 percent and 905 percent greater than the transition area.

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22. The induction system of claim 21 wherein the expansion area is between about 360 percent and 530 percent greater than the transition diameter.

5 23. An induction system for an internal combustion engine having a plurality combustion chambers and intake ports in periodic communication with the combustion chambers, comprising:

a plurality of lower trumpets, each having an upper end, a lower end and a length;

10 a trumpet pack including a plurality of interconnected upper trumpets, each upper trumpet having an upper end, a lower end and a length;

a transition section extending between the upper end of each lower trumpet and the lower end of each upper trumpet;

15 wherein said lower trumpets are each connectable at their lower ends to the intake ports of an engine and have an inner transition diameters proximal their upper end, and wherein said upper trumpets each have an inner expansion diameter that is between about 68 percent and 217 percent greater than the transition diameters.